percent of the Navy's 1987 combat aircraft procurement budget request was for aircraft models that entered production more than 10 years ago. Had production of these been completed more rapidly, the budgeted funds would be available for other, newer systems.

Avoiding stretch-outs, and buying at high rates, may not always be the best way to deal with obsolescence. For example, suppose the military buys a new missile very quickly, but it is rendered largely obsolete by a change in potential battlefield conditions. Under a slower rate of procurement, the system could have been canceled before too many units were produced. Still, given the average of 16 years to complete production of the typical systems examined above, it does not seem likely that policy changes to avoid stretch-outs would result in overly rapid procurement.

Finally, higher production rates would also mean that more systems could be deployed sooner. In their testimony before Congressional committees, theater commanders emphasize that they are short of critical "war stoppers"--modern munitions capable of blunting an enemy attack.5/ They explicitly mention missiles such as the Sparrow, Sidewinder, High Speed Antiradiation Missile (HARM), Maverick, and MLRS--missiles for which production rates could be increased without investing in new facilities.

WHY STRETCH-OUTS OCCUR

Given the advantages of higher rates, why are program stretch-outs so common? The easy answer is "fiscal limitations." Certainly, both DoD, in preparing its budget for submission, and the Congress, in acting on the request, must meet overall constraints on the level of defense spending through cuts in specific programs. The more relevant question is why stretch-outs are chosen in preference to other ways of reducing the budget.

5. See *Department of Defense Authorization for Appropriations for Fiscal Year 1986*, Hearings before the Senate Committee on Armed Services, 99:1 (1985), p. 3, pp. 1241-1249.

Keeping production rates high for some weapons would mean that other weapons programs would almost certainly be delayed or canceled. Higher production rates often lower the cost per unit of a weapon, but producing 100 items rather than 50 in a particular year will always increase the total funding required in that year. Even if unit costs were lower, the higher numbers would more than offset reduced costs per weapon. Within a fixed budget, these higher program costs would have to be offset by reductions elsewhere. It would probably be considered unwise to reduce numbers of forces or readiness. More likely, higher costs for ongoing programs would have to be offset by canceling or deferring new weapons. This approach would delay the acquisition of new weapons, which are always technologically more advanced and thus often more highly prized by the military. Chapter IV illustrates this trade-off explicitly.

Low production rates are justifiable in the case of weapons that are still undergoing developmental or operational testing, since DoD is naturally loath to sink large sums into an unproved system. A common approach is to produce at low rates for a few years and then increase production to more economic levels. This allows major deficiencies that emerge in testing to be corrected before many units have been delivered.

Most weapons systems undergo many modifications over their lifetimes, and keeping production rates low may reduce the costs of such modifications. It is usually cheaper to incorporate modifications into new units as they are produced; with high production rates, more systems might have to be recalled, a costly procedure.

Finally, stretching out production by keeping rates low makes it easier to maintain an active production base. Higher production rates mean shorter production periods, if total acquisitions are fixed. Shorter periods would increase the likelihood of a production gap, because procurement of one generation of weapons might be finished before development of the next generation was completed. In order to facilitate transition to the new products, it is important to keep together the accumulated knowledge and skills of engineers and key production managers. One solution, of course, would be to buy existing systems quickly and efficiently and then move on to new ones. Short of this, sales to foreign customers might help to fill production gaps without sacrificing productive efficiency.

CHAPTER IV

PRODUCTION-RATE INCREASES FOR SELECTED PROGRAMS

What impact would more rapid acquisition schedules have on equipment modernization objectives and weapons stocks? What would be the long-run savings from the increase in production rates implied by these faster schedules? Most importantly, could annual procurement quantities be kept at these higher rates without an overall increase in procurement budget authority? To assist the Congress in answering the first two of these questions, this study estimates the budget impact of higher procurement rates for selected weapons systems. To illustrate possible solutions to the third question--how to fit higher procurement rates into a fixed budget--the study examines possible budgeting offsets, such as canceling or deferring other weapons programs.

EFFECTS OF PRODUCTION-RATE INCREASES

The 12 systems chosen to illustrate the effects of higher production rates include missile, combat vehicle, and aircraft programs drawn from the procurement plans of all four military services. The higher rates that characterize the alternative schedules for these weapons were based on a review of previous service acquisition plans. Their feasibility is demonstrated by the fact that they are lower than or the same as rates contained in those previously submitted plans--which were later revised downward--and they are often lower than peak production rates actually achieved in the past. An additional criterion was that sufficient manufacturing capability be available to increase the production of a weapon without significant new investment. Table 6 lists the changes in quantities and costs for each program; Appendix A describes the programs' baselines and alternative schedules and costs in more detail.

TABLE 6. EFFECTS OF ACCELERATING PRODUCTION OF SELECTED WEAPONS SYSTEMS (Costs in billions of 1988 budget dollars)

System	Number of Units Acquired through 1992		Additions under Alternative Plan		Increase in Budget Authority Needed	
	Administration's Plan	Alternative Plan	Number	Percent	1988	1988-1992
Aircraft						
AH-64 Apache	593	1,102	509	86	0.3	4.5
F-15E Eagle	260	392	132	51	0.4	3.7
F/A-18 Hornet	949	1,157	208	22	0.1	4.5
SH-60F CV Helicopter	85	175	90	106	a/	1.0
UH-60A Black Hawk	1,111	1,435	324	29	0.2	1.4
Total, Aircraft	2,998	4,261	1,263	42	1.0	15.1
Missiles						
HARM	14,619	20,481	5,862	40	0.2	1.3
Harpoon	3,971	4,697	726	18	a/	0.6
IIR Maverick	25,820	49,864	24,044	93	0.2 b/	1.5 b/
Standard Missile 2 ER	3,973	4,643	670	17	a/	0.2
Stinger	43,939	50,370	6,431	15	0.1	0.3
Total, Missiles	92,322	130,055	37,733	41	0.5	3.9
Combat Vehicles						
M1 Tank	7,844	9,718	1,874	24	0.1	4.3
Bradley Fighting Vehicle	6,882	8,117	1,235	18	a/	1.2
Total, Combat Vehicles	14,726	17,835	3,109	21	0.1	5.5
Increase in budget authority for all systems					1.6	24.5

SOURCES: Congressional Budget Office estimates (for increase in budget authority); Department of Defense (for quantities).

a. Less than $50 million.

b. Based on the difference between the 1987 budget, adjusted for Congressional action and inflation, and the 1988/1989 budget.

The missile systems selected were among those nominated for faster acquisition by senior military leaders. The heads of Unified Commands in the European, Pacific, and Central areas have testified before the Congress concerning deficiencies in stocks of guided missiles.1/ The weapons examined in the following discussion are among the critical "war-stoppers" they believe are in short supply. Other weapons systems were included to illustrate the effects of higher production on a wide variety of systems.

For several programs, higher procurement rates simply buy the planned program more quickly. In other cases, they buy more weapons than planned currently, but a requirement has previously been established by the service or services concerned for additional numbers of systems--a requirement not met by the Administration's current plan. (Details of these requirements are not reported here, since they are generally classified data.) DoD may choose not to meet an established requirement because of budgetary limitations or because it expects some later-generation weapon to fill the need.

Near-Term Impact of Faster Acquisition

The increasing numbers of weapons acquired over the 1988-1992 period as a result of these production-rate increases would, in some cases, reduce the current deficiencies noted by military commanders. The five missile programs would add 37,733 more missiles than the Administration plans for these systems, an increase of 41 percent. This increase would significantly enhance U.S. war reserve stocks of these items.

For other weapons, higher production rates would allow requirements to be met more quickly. Accelerated purchases of the F/A-18 aircraft, as the 1987 defense plan called for, would mean the program would be completed by 1992 rather than 1995 as targeted in the current budget plan. Earlier deliveries would allow aging A-7 aircraft to be retired more quickly, avoiding operational problems and enhancing the Navy's and Marine Corps' attack capabilities. Simi-

1. See *Department of Defense Authorization for Appropriations for Fiscal Year 1986*, Hearings before the Senate Committee on Armed Services , 99:1 (1985), pt. 3, pp. 1241-1449.

larly, completing the SH-60F helicopter program by 1992 would provide improved submarine protection to the carrier battle group.

The Army's attack helicopter requirement would be fully met through the increase envisioned here for the AH-64 Apache helicopter, whereas it would not be met under current Administration plans until a new helicopter--the LHX--is purchased in the 1990s. And the increase in UH-60 Black Hawk helicopters would reduce the UH-60 helicopter shortfall to about 20 percent as against 37 percent under the Administration's five-year plan.

Accelerated purchases of the F-15E Strike Eagle would complete the acquisition of these new deep-attack aircraft by 1991, a gain of five years over the Administration's schedule. Overall, the aircraft procurement rate adjustments would add 1,263 aircraft in 1988-1992 above those in the Administration's plan.

The Army recently stretched out the M1 tank and Bradley Fighting Vehicle programs, responding to Congressional direction to conduct an analysis of future tank production and the impact of closing the only U.S. tank production line.2/ The alternative examined here would be to continue buying tanks at economic rates. The Bradley Fighting Vehicle production rate is also increased, though more modestly than last year's production plan anticipated. Overall, these increases would add 3,109 combat vehicles to those the Administration plans to buy in the next five years.

Unit Cost Decreases

These alternative procurement programs at higher production rates would result in lower unit costs for the weapons purchased. Estimates based on data gathered from the services suggest that, for the 12 systems analyzed here, unit costs could go down by as much as 25 percent (see Table 7).

2. *National Defense Authorization Act for Fiscal Year 1987*, Report No. 99-718, House Committee on Armed Services, 99:2 (1986), p. 29.

These estimates were derived from schedules relating production rates to unit costs. The method ignores factors such as learning curves and product changes that also affect cost. Nevertheless, it usually yielded results that were within four to five percentage points of those obtained using a statistical cost model estimated from budget data (see Chapter III for further discussion). There were exceptions, however, where the two estimates deviated more significantly, as illustrated by the range of estimates in Table 7 for the F-15E aircraft,

TABLE 7. REDUCTIONS IN UNIT COST THROUGH HIGHER PROCUREMENT RATES

System	Average Production Rate: Administration's Plan	Average Production Rate: Alternative Plan	Percent Increase	Percent Decrease in Unit Cost
Aircraft				
AH-64 Apache Helicopter	67	115	72	16
F-15E Eagle Aircraft	38	86	126	4-18
F/A-18 Hornet Aircraft	73	116	59	3
SH-60F CV Helicopter	15	34	127	6-9
UH-60 Black Hawk Helicopter	63	115	83	4-13
Missiles				
HARM Missile	2,366	3,240	37	4-8
Harpoon Missile	177	322	82	22-24 a/
IIR Maverick Missile	5,074	8,457	67	11-20
Standard Missile 2 (ER)	330	464	41	9-10
Stinger Missile	5,272	6,326	20	2-7
Combat Vehicles				
M1 Tank	417	792	90	13-25
Bradley Fighting Vehicle	637	757	19	5-8

SOURCE: Estimates by the Congressional Budget Office based on cost data from the armed services and defense contractors.

the IIR Maverick missile, and the M1 tank. In these cases, the service estimate of savings was likely to be larger than that derived from regression analysis. On the basis of the latter, unit cost decreases would range from 2 percent to 16 percent.3/

Estimates of Long-Run Savings from Higher Production Rates

In most of the cases studied, completing an acquisition program earlier by choosing a higher rate of production would save money. This is seen most clearly in the five cases that would not require any change in total program quantity from that planned by the Administration. Costs to complete those five systems, under the Administration's plan, total $36.1 billion. To produce these five systems at higher rates would require that the Congress add $11 billion in budget authority for 1988-1992. But over the long term, this move would save money. Using the more conservative regression estimates of rate effects on cost, long-run net savings from higher production rates were estimated at $1.7 billion or 5 percent of the cost (see Table 8). This estimate ignores inflation savings from buying weapons sooner; if included, those inflation savings would nearly double total savings.

Indeed, if the higher estimates of the effect of higher production rates on unit cost were substituted for the more conservative figures, savings for the five systems would total $3.9 billion in constant dollars, or about 11 percent of total costs, compared with 5 percent using the lower estimates. This range illustrates the degree of uncertainty as to the magnitude of potential savings from higher-rate production. But even the lower estimates demonstrate that the potential savings from higher-rate acquisition programs are large enough to merit the attention of DoD and the Congress.

3. The higher figures appearing in Table 7 were not derived from CBO's regression estimates.

TABLE 8. ESTIMATES OF SAVINGS FROM HIGHER PRODUCTION RATES (In billions of 1988 budget dollars)

System	Administration's Plan		Alternative Plan		Savings	
	Average Annual Rate	Total Cost	Average Annual Rate	Total Cost	Undiscounted	Discounted at 2 Percent
F-15E Aircraft	38	12.4	86	10.2-11.9	0.5-2.2	0.1-1.7
F/A-18 Aircraft	73	15.3	116	14.8	0.5	0.2
IIR Maverick	5,074	4.4	8,457	3.6-3.9	0.5-0.9	0.3-0.6
SH-60F Helicopter	15	2.6	34	2.3	0.2	0.1
Stinger Missile	5,272	1.5	6,326	1.4-1.5	0.0-0.1	a/
Total		36.1		32.3-34.4	1.7-3.9	0.7-2.6

SOURCE: Savings estimated by the Congressional Budget Office, based on models relating costs to production rates and on service estimates of rate effects.

a. Less than $50 million.

PAYING FOR HIGHER PRODUCTION RATES

Long-run savings notwithstanding, higher production rates are not feasible unless some way is found to offset the higher near-term funding needed to support them. The fiscal year 1988 Congressional budget resolution set a cap on national defense budget authority of no more than $296 billion, a reduction of at least $16 billion from the President's budget request and a slight reduction in real terms below the 1987 level.4/ Thus, decisions to fund higher production rates for some systems would have to be accompanied by actions to reduce budget authority elsewhere. This study assumed that cuts would be made in other procurement or research and development programs. The Congress seems unlikely to support large reductions in money for operations and support, since this might result in reduced readiness.

4. Should the President not accept the higher taxes assumed in the budget resolution, this figure would be cut still further to $289 billion.

Indeed, recent Congressional cuts in DoD's budget have come disproportionately from the investment accounts that pay for procurement and research.

Reducing the production rate on one system in order to increase it for another would be self-defeating. The other savings options available to the Congress are either (1) to defer starting new procurement or research and development efforts until current programs are completed, or (2) to cancel certain ongoing or planned weapons programs in order to fund production increases in others with higher priority. Examples were developed of each approach in order to illustrate the savings and possible impacts on the defense program.

If the Congress chose to support the specific increases for all 12 programs detailed in Table 6, it would add $24.5 billion to defense budget authority for fiscal years 1988 through 1992.5/ The larger part of this funding--$15.1 billion--would be needed for the five aircraft programs; in contrast, accelerating the missile programs would require less than $4 billion in added budget authority. Near-term costs for the additional combat vehicles would be $5.5 billion.

Funding Production-Rate Increases by Deferring New Starts

The study analyzed the savings that would result from deferring development or production by two years. Twenty-two systems scheduled to start production in fiscal years 1988 through 1990 are listed in Table 9; they include the Navy Department's V-22 Osprey aircraft and SSN-21 attack submarine, the Air Force's C-17 transport aircraft and small strategic missile (SICBM), and elements of the Army's air defense system and tactical missile system. Development funds for these programs were either continued at fiscal year 1987 real levels through the two-year delay period--when development spending was scheduled to rise--or continued as planned.

5. This is an upper-bound estimate based on regression costing methods. Were service estimates of higher savings used instead, the additional budget authority required would be less.

TABLE 9. ESTIMATED SAVINGS FROM DEFERRING NEW STARTS (In billions of 1988 budget dollars)

Program	Savings from a Two-Year Deferral		Reduction in Units Purchased through 1992
	1988	1988-1992	
Research and Development Programs			
Army R&D Programs	a/	1.8	N.A.
Navy R&D Programs	0.1	0.3	N.A.
Air Force R&D Programs	a/	0.2	N.A.
Procurement Programs b/			
Aircraft			
V-22 Osprey c/	0.1	5.3	120
RC-12 Reconnaissance	0.1	0.4	19
F-14D	0.6	1.8	24
P-3G	a/	2.0	50
EX Competition	0.2	0.1	0
T-45TS	0.4	1.1	96
JSTARS (Air Force)	a/	0.3	2
C-17	1.3	5.8	30
Missiles			
FAADS Line of Sight-Forward-Heavy	0.1	0.8	2,724
FAADS Non Line of Sight	0.1	0.6	n.a.
Army Tactical Missile	a/	0.3	658
Penguin	a/	a/	65
Sea Lance	0.0	0.4	d/
Rail Garrison	0.5	4.2	45
Tacit Rainbow	0.2	0.8	d/
SRAM II	0.2	0.3	100
Small ICBM	1.1	6.4	96
Ships			
LSD-41 Cargo Variant	0.3	0.8	3
SSN-21 Submarine	0.3	3.7	4
Other			
FAADS C^2I	0.2	0.4	n.a.
FY 1989 Submarine Combat System e/	0.2	0.7	4
Sensor Fuzed Weapon	0.0	0.5	2,325
Total All Programs	5.7	39.1	

SOURCE: Congressional Budget Office estimates based on Department of Defense, *Selected Acquisition Reports* (December 1986 and June 1987).

NOTE: N.A. = not applicable. n.a. = not available.

a. Less than $50 million.

b. Procurement programs include costs for RDT&E, Procurement, and Military Construction associated with the program.

c. Joint service program.

d. Number is classified.

e. Excludes costs included in the SSN-21 program.

Nine other new programs scheduled to start development in 1988 or 1989 would be similarly delayed. These include the Army's effort to develop a new armored family of vehicles, the Navy's Advanced Air-to-Air Missile, and the Air Force's Air Defense Battle Management Technology program.

Together these deferrals would free a total of $39.1 billion in funds for fiscal years 1988 through 1992 (see Table 9). Deferrals, of course, are not permanent savings. The study assumed that these programs would commence after two years according to the schedule set out in the Administration's defense plan, and that the ultimate real cost of the programs would not be increased.6/

Deferral of all these new starts would free up more funds than are necessary. Increasing production rates for the 12 programs listed in Table 7 would require less than $25 billion in additional funds over the 1988-1992 period, as compared with $39.1 billion in near-term savings from the deferrals listed in Table 9. Thus, the Congress could choose to proceed with some new programs and still afford to increase production rates for current-generation weapons. Alternatively, it could increase rates for a selection of such programs while deferring only a few new starts.

A combination of new-system deferrals and increases in production rates would emphasize near-term capability at the expense of delaying future force modernization. Over the next five years, assuming all the aircraft program changes detailed above--both production increases and deferrals of new starts--were approved by the Congress, the services would gain 1,263 additional modern aircraft, while losing 341 others because of deferrals, a net gain of 922 aircraft. Similarly, approval of the missile program changes would add 37,733

6. This assumption is based on the fact that, for most programs, considerable development effort is planned even after production is started. For example, $3.7 billion of an eventual total of $4.9 billion in research and development funds for the C-17 aircraft remains to be appropriated over fiscal years 1988 through 1993. Thus, deferring production of systems for delivery to operational units while building and testing prototypes is possible. This approach was, in fact, a recommendation of the President's Commission on Defense Acquisition (the Packard Commission). Although not included in these cost estimates, eventual reductions in the program costs are possible if such testing reveals unanticipated defects that can be remedied before production begins.

missiles, and result in the loss through deferrals of at most one-fifth this amount.7/

The two-year delay in producing new weapons would delay the benefits of the new technology incorporated in such systems as the SSN-21 attack submarine, V-22 tilt-rotor aircraft, C-17 transport, and new air defense systems for the Army. It could also introduce inefficiencies of its own by slowing the R&D effort for these and other new systems.

On the other hand, rapid production of a weapons system, requiring a tight schedule for developing certain components while at the same time producing others, may also be expensive. Concurrency is thought to have been a major factor in the problems that emerged with the B-1B bomber. In such cases, deferring production while continuing R&D might ultimately result in lower, not higher, costs.

Funding Production-Rate Increases by Terminating Programs

Rather than deferring new program starts, the Congress might instead choose to terminate some of them in order to fund others at efficient rates. It is beyond the scope of this study to discuss in detail the pros and cons of terminating specific weapons programs. But in order to illustrate concretely what might be required to pay for higher production rates in the near term, the study lists nine programs that might be considered as candidates for termination (see Table 10).

These nine programs include examples from each of the military services. Four of them buy aircraft that serve to augment conventional force capability, while five are strategic programs. The notes to Table 10 identify sources of further information about each program; the sources either advocate termination or present pros and cons for such an action.

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7. It is impossible to calculate this figure with precision, since quantities for the five-year defense plan have not been established for all new program starts. Deferred missiles that can be counted sum to 3,688, less than one-tenth the number that would be added because of increases in production rates.

TABLE 10. ILLUSTRATIVE SAVINGS FROM CANCELING PROGRAMS, 1988-1992 (In billions of 1988 budget dollars)

System	1988	1989	1990	1991	1992	Total, 1988-1992
Conventional Forces Programs						
A-6F Aircraft	1.0	1.0	0.9	0.9	1.3	5.1
LHX Helicopter a/	0.4	0.6	0.8	0.9	0.5	3.1
F-15E Aircraft	1.8	1.8	1.8	1.7	1.5	8.5
V-22 Aircraft	0.5	0.6	2.0	2.6	3.0	8.8
Strategic Forces Programs						
Small ICBM	2.2	2.3	5.1	4.2	4.2	18.0
Rail Mobile MX Missile	0.6	1.2	2.2	2.9	1.5	8.4
Short Range Attack Missile II	0.2	0.2	0.3	0.2	0.2	1.2
Antisatellite Missile	0.4	0.7	0.5	0.5	0.4	2.5
Trident Backfit Program	b/	0.2	0.1	0.3	0.2	0.8

SOURCE: Congressional Budget Office estimates based on Department of Defense, *Selected Acquisition Reports* (December 1986).

NOTES: The pros and cons of canceling many of the programs listed above are presented in Congressional Budget Office, *Reducing the Deficit: Spending and Revenue Options* (January 1987). See "Restructure the Army Helicopter Programs," pp. 38-39 (for LHX); "Cancel Procurement of the F-15," pp. 20-21; "Cancel V-22 Aircraft," pp. 36-37; "Reduce Purchases of MX Missiles," pp. 34-35; "Cancel Trident Refit Program," pp. 26-27; "Cancel the Antisatellite Missile," pp. 24-25.

Arguments for canceling the A-6F are presented in *National Defense Authorization Act for Fiscal Years 1988 and 1989*, Report No. 100-57, Senate Committee on Armed Services, to accompany S. 1174, 100:1 (1987), p. 36. For information on all strategic programs, see Congressional Budget Office, *Modernizing U.S. Strategic Offensive Forces: Costs, Effects, and Alternatives* (forthcoming).

a. Research and development costs only.

b. Less than $50 million in savings.

Taken together, canceling these nine programs would reduce five-year defense costs by a total of $56.4 billion. As with the deferrals, it seems unlikely that the Congress would choose to terminate all these programs; many are widely regarded as having high priority. But only a limited number of such terminations would be necessary to offset the additional $24.5 billion needed over the next five years to increase production rates for the 12 programs discussed above. More realistically, termination of only one or two programs would allow production rate increases for some of the 12 systems.

In some cases, terminating selected new programs while increasing production rates for others would be consistent with the priorities expressed by key defense groups in the Congress. For example, in their reports accompanying the National Defense Authorization Act for fiscal years 1988/1989, both the Senate and the House Armed Services Committees expressed their sense that budget priorities should be shifted away from strategic forces and toward building conventional forces. Though the options listed here go beyond specific committee recommendations, a combination of selected strategic program terminations with increases in conventional weapons production would be consistent with the committees' expressed priorities.

APPENDIXES

APPENDIX A

DETAILS OF PRODUCTION-RATE INCREASES FOR SELECTED WEAPONS

This appendix presents detailed estimates of the costs and savings from accelerating procurement of selected weapons. The data include annual quantities and costs for the Administration's program and for the accelerated program, near-term additional costs and long-run savings from the latter, and the discounted present value of net savings. The savings are based on regression model results; thus, they represent a conservative estimate of long-term savings in most cases. A brief description of each weapon and its production history is included as well. (All costs and savings are in billions of dollars of constant fiscal year 1988 budget authority.)

AH-64 Apache Helicopter

The Apache helicopter--the Army's primary attack helicopter--is designed primarily to destroy enemy armored vehicles with the Hellfire missile system. Its advanced targeting and pilot night vision systems allow it to operate at night and in all weather conditions. The Army has a requirement for over 1,100 new attack helicopters. Because of funding limitations, however, the Administration intends to terminate the Apache program; the fiscal year 1988 request for 67 aircraft will be the last increment to a total of 593 aircraft. The remaining requirement would not be met until the new Light Helicopter Experimental (LHX)/Scout-Attack (SCAT) weapons system becomes operational in the mid-to-late 1990s.

The accelerated plan would procure 509 additional Apaches (for a total of 1,102) to meet the Army's requirements by the end of the 1992 funded delivery period. This would add $4.5 billion to the cost of the Apache program. The annual production rate would rise to 120 per year in the 1989-1992 period.

Maximum economic production rate = 144
Minimum economic production rate = 72

Fiscal Year	Administration's Plan Quantity	Administration's Plan Cost	Accelerated Plan Quantity	Accelerated Plan Cost	Additional (Cost) or Savings
1988	67	0.7	96	1.0	(0.3)
1989		0.1	120	1.2	(1.0)
1990		a/	120	1.1	(1.0)
1991			120	1.0	(1.0)
1992	—	—	120	1.0	(1.0)
Total 1988 to Completion	67	0.9	576	5.3	(4.5)

a. Less than $50 million.

F-15E Eagle

The F-15D Eagle is currently the Air Force's most capable air superiority fighter. Armed with medium-range, radar-guided Sparrow and short-range, infrared-guided Sidewinder missiles, it can perform its counterair mission at night and in inclement weather. The new "E" model gives the F-15 a capability for deep penetration attacks against surface targets. Changes in the "E" model include the addition of the Low Altitude Navigation and Targeting Infrared for Night (LANTIRN) system, improvements in radars and in electronic warfare, communications, and identification systems, and a second crew position to operate the LANTIRN and other new electronics systems.

The Air Force intends to purchase 342 F-15Es at an average of 38 systems per year. The total cost of the F-15E program is currently estimated at $12.4 billion. The alternative plan would increase the production rate to a maximum of 108 per year, completing the program in 1991 instead of 1996 under the Administration's plan. While this higher acquisition rate would save $0.5 billion in the long run, it would require additional funding of $3.7 billion over the 1988-1992 period.

Maximum economic production rate = 144